

5     What is Claimed is:

1. A media router comprising:

a media routing control part for giving a fixed unit of time stamp, a TS packet number, to every TS packet of a TS (Transport Stream) of a digital broadcasting or an analog broadcasting signal, and extracting index information from the TS having the time stamp

10    added thereto; and,

      a storage part for receiving the TS having the time stamp added thereto and the index information from the media routing control part and storing therein.

2. A media router as claimed in claim 1, wherein the media routing control part

includes;

      a multiplexer for selecting and forwarding one of the TSs of the digital broadcasting signal and the analog broadcasting signal,

      a format converting part for giving a time stamp to the TS from the multiplexer to synchronize, and extracting index information, and

20        a demultiplexer for selecting one of outputs of the multiplexer and the format converting part.

3. A media router as claimed in claim 2, further comprising a scrambling /descrambling part for scrambling the TS having the time stamp given thereto and the index

25    information or descrambling scrambled information from the storage part.

4. A media router as claimed in claim 1, wherein the TS and the index information from the media routing control part are stored in the storage part through a PCI bus.

5. A media router as claimed in claim 1, wherein the storage part includes;

a system memory for storing the TS and the index information from the media routing control part, and

a storage medium for receiving the TS and the index information stored in the system

10 memory and storing the TS and the index information, again.

6. A media router as claimed in claim 5, wherein the TS and the index information

stored in the system memory is stored in the storage medium by DMA (Direct Memory Access) transmission.

7. A media router as claimed in claim 5, wherein the storage medium is either an

HDD (Hard Disc Drive) or a DVD (Digital Versatile Disc).

8. A media router as claimed in claim 1, wherein the index information includes at

20 least one of the TS packet number having a picture header and information on kind of picture.

9. A media router comprising;

a PID filter part for selecting only a TS of a desired program from a received digital broadcasting signal and forwarding the TS;

25 an MPEG-2 encoder for coding a received analog broadcasting signal into an MPEG-2 TS format, and forwarding the coded analog broadcasting signal;

a media routing control part for giving a time stamp to every TS packet from the PID filter part or every TS packet of the analog broadcasting signal from an MPEG-2 encoder to,

5 synchronize the TS packet, and extracting index information;  
a memory part for storing the TS synchronized at the media routing control part and  
the index information, and  
a decoding part for receiving, decoding, displaying a broadcasting signal or a signal  
reproduced through the memory part, and the media routing control part.

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10. A media router as claimed in claim 9, wherein the media routing control part  
includes;

a multiplexer for selecting and forwarding one of the TSs of the digital broadcasting  
signal and the analog broadcasting signal,

a format converting part for giving a time stamp to the TS from the multiplexer to  
synchronize, and extracting index information,

a demultiplexer for selecting one of outputs of the multiplexer and the format  
converting part, and

a scrambling/descrambling part for scrambling the TS having the time stamp given  
thereto and the index information or descrambling scrambled information from the storage  
part.

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11. A media router as claimed in claim 9, wherein the storage part includes;  
a system memory for storing the TS and the index information from the media  
routing control part, and  
a storage medium for receiving the TS and the index information stored in the system  
memory and storing the TS and the index information, again.

5        12. A media router as claimed in claim 11, wherein the TS and the index information  
stored in the system memory is stored in the storage medium by DMA (Direct Memory  
Access) transmission.

10      13. A media router as claimed in claim 9, wherein the TS and the index information  
from the media routing control part are stored in the storage part through a PCI bus.

14. A media router as claimed in claim 9, wherein the index information includes at  
least one of the TS packet number having a picture header and information on kind of picture.

15      15. A method for recording a broadcasting signal by using a media router having a  
media routing control part and a storage medium, comprising the steps of:

(a) selecting one of TSs of a received digital broadcasting signal and a received  
analog broadcasting signal;

20      (b) adding a time stamp to a selected TS to synchronize, and extracting index  
information, for converting a format of the TS; and,

(c) storing the TS having the time stamp added thereto and the index information in a  
storage medium.

16. A method as claimed in claim 15, further comprising the steps of:

25      determining whether a format converted TS is scrambled or not; and,  
scrambling and storing the TS if the TS is to be scrambled as a result of the  
determination, and storing the TS without scrambling the TS if the TS is not to be scrambled  
as a result of the determination.

17. A method as claimed in claim 15, further comprising the step of setting a password at the storage medium to inhibit recording/reproduction after the step (c).

18. A method for reproducing a broadcasting signal by using a media router having a  
10 media routing control part and a storage medium, comprising the steps of:

- (a) converting formats of a time stamp and index information stored in the storage medium or a format of the TS only; and,
- (b) decoding, and displaying a format converted TS.

19. A method as claimed in claim 18, wherein the step (a) includes the step of descrambling the TS before the format conversion, if the TS stored in the storage medium is in a scrambled state.

20. A method as claimed in claim 18, wherein the step (a) includes the step of  
20 converting a format of only a TS packet from the storage medium, with reference to the TS packet number, kind of picture, and the time stamp given to every TS packet in the index information stored in the storage medium, when a trick mode reproduction is to be carried out.